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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,475	11/03/2003	Remy Kirchdoerffer	0514-1131	3191
466	7590	03/28/2005	EXAMINER	
YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			HUNNINGS, TRAVIS R	
			ART UNIT	PAPER NUMBER
			2632	

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/698,475

Applicant(s)

KIRCHDOERFFER ET AL.

Examiner

Travis R Hunnings

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because of the following informalities:

Change the label "SR" to "FR" in figures 2 and 3;

The boxes that represent functional blocks of the circuit are unlabeled, making it hard to quickly look at the drawings and determine what the circuit is relating to. The boxes should be labeled.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 1 and 8 are objected to because of the following informalities:

For claim 1, the words "however" and "likewise" and the phrase "or at least not immediately" in the claim language makes it hard to determine what exactly is meant by the claim and should be removed. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 3, 4, 5, 7 and 8-11 are rejected under 35 U.S.C. 112, second paragraph for failing to particularly point out and distinctly claim the subject matter which the applicant regards as his invention.

Claim 1 recites the limitations "the operating state", "the operating point" and "value" in lines 5, 9 and 12 respectively. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites the limitation "the intensity value" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites the limitation "the intensity value" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation "the threshold values" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 11 recites the limitation "the intensity value" in line 5. There is insufficient antecedent basis for this limitation in the claim.

The term "roughly" in claim 5 is a relative term which renders the claim indefinite. The term "roughly" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The bottom and top threshold values are rendered indefinite by the term "roughly".

Regarding claim 7, the phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding claim 10, the phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding claim 9, the phrases "mainly" and "optionally" render the claim indefinite because it is unclear whether the limitation(s) following the phrases are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teodorescu (US Patent 5,986,549).

Regarding claim 1, Teodorescu discloses *Position And Movement Reasonant Sensor* that has the following claimed subject matters:

The claimed LC tuned circuit operating according to the inductive or capacitive action principle is met by the resonant sensor (LC) (col1 61-64, col2 1-12, 51-59 and figure 1);

The claimed amplifier connected to the LC circuit is met by the buffer amplifier (col1 61-64, col2 1-12, 51-59 and figure 1);

The claimed changing at least one oscillation parameter when a suitable influencing element or article approaches the circuit is met by the position and/or movement of an object in proximity to resonant sensor causes a change in the parallel resonant frequency of the resonant sensor (col2 51-59);

The claimed operating state of the amplifier being changed when the article does not reach a certain distance to the tuned circuit is met by the position and/or movement of an object in proximity to resonant sensor causes a change in the parallel resonant frequency of the resonant sensor (col2 51-59) which causes the buffer amplifier and amplifier (30) to produce an analog output signal (col2 51-67 and col3 1);

The claimed free or externally excited oscillation not however being interrupted with reaching the operating point or at least not immediately is met by the resonant sensor continuing to resonate even in the presence of an object in proximity (col1 61-64, col2 1-12, 51-59 and figure 1).

However, Teodorescu does not specifically disclose the claimed display means which are able to signal the presence of influence on the tuned circuit before the operating point or value of the amplifier is reached. Teodorescu discloses output circuitry being connected to generate binary output signals suitable for initiating commands, signaling controllers, or driving alarms (col7 48-57). It would have been obvious to implement the presence alarm driven function of Teodorescu in the form of a display means to display the presence of the influence on the tuned circuit thereby alarming the presence to an operator in an easily perceptible medium. Teodorescu is able to detect the proximity of an object as well as a measure of the distance from the sensor to the object (col2 1-12) and it would therefore be obvious that the system would be able to detect the influence of the object across the entire band of operation of the LC tuned circuit and the amplifier. The term "dynamically connected amplifier" is interpreted as a "dynamic" connection as conducting a signal when there is a condition that has occurred, i.e. not fixed.

Regarding claim 2, Teodorescu discloses all of the claimed limitations. The claimed proximity switch wherein the display means are also active and signal the presence of an influence on the tuned circuit when the operating point has been

reached and exceeded is met by Teodorescu being able to detect the proximity of an object as well as a measure of the distance from the sensor to the object (col2 1-12) and it would therefore be obvious that the system would be able to detect the influence of the object across the entire band of operation of the LC tuned circuit and the amplifier.

Regarding claim 3, Teodorescu discloses all of the claimed limitations. The claimed proximity switch wherein the display means are adjusted such that they are active when the intensity of the influence on the tuned circuit is within at least one sensing range which surrounds and contains the intensity value which corresponds to the operating point is met by Teodorescu being able to detect the proximity of an object as well as a measure of the distance from the sensor to the object (col2 1-12) and it would therefore be obvious that the system would be able to detect the influence of the object across the entire band of operation of the LC tuned circuit and the amplifier. It would have been obvious to choose a particular range of detection based on the application and how far away from the resonant sensor an object needed to be detected.

Regarding claim 4, the claim is interpreted and rejected as claim 3 stated above.

Regarding claim 5, the claim is interpreted and rejected as claim 3 stated above.

Regarding claim 6, Teodorescu discloses all of the claimed limitations. The claimed proximity switch wherein the display means when they are active deliver various signals depending on whether the intensity of the influence on the tuned circuit has exceeded the intensity value which corresponds to the operating point or not is met by the display means showing the influence of the object in proximity to the resonant sensor (see rejection to claim 1). The display means would be able to show any influence on the circuit including when an object has exceeded an operating point distance to the resonant sensor.

Regarding claim 7, Teodorescu discloses all of the claimed limitations. The claimed parameter which is used to evaluate the influence on the tuned circuit is chosen from the group which contains amplitude, phase and frequency is met by the proximity of the object changing the parallel resonant frequency of the resonant sensor (col2 51-59). The claimed signal delivered by the display means is a signal of any shape is met by the display means being operable to show any influence on the resonant sensor (see rejection to claim 1). The claim language after the phrase "for example" is not taken into consideration in this rejection, see 112 rejection to claim 7 stated above.

Regarding claim 8, Teodorescu discloses all of the claimed limitations. The claimed sensing range or threshold values being adjusted is met by the device being able to sense the proximity and/or distance of an object and it would be obvious that an operator could adjust the device to be able to signal when the object is in a particular

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range of distances from the resonant sensor (col2 1-12). The examiner takes official notice that it is well known in the art to include amplifiers when connecting display devices to electrical devices in order to increase voltage and current supply to the display devices so that they operate properly. The term "switching amplifier is dynamically connected in series" is interpreted as a "dynamic" connection that conducts a signal whenever there is a condition that has occurred, i.e. not fixed.

Regarding claim 11, the claim is interpreted and rejected as claim 3 stated above.

7. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teodorescu in view of Ferre et al. (Ferre; US Patent 6,694,167).

Regarding claim 9, Teodorescu discloses the following claimed limitations:

The claimed mounting of the housing which contains the switch or sensor at the application site and use of an adjusted switch or sensor as a proximity switch after completion of the preceding steps is met by the device being used to monitor the proximity and/or distance of an object to the resonant sensor and may be used in many applications (col2 1-12 and col1 11-15).

However, Teodorescu does not specifically disclose the claimed execution of a calibration or adjustment process of the switch or sensor, specifically of the tuned circuit and the display means and the optionally dynamically connected electronics in the

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presence of a working environment which is conventional in the application, but in the absence of the influencing element or article which is to be detected in the working process, at least by moving out of the detection range of the switch or sensor. Ferre discloses *System For Monitoring A Position Of A Medical Instrument With Respect To A Patient's Head* that teaches a calibration method for a sensor that calls for calibrating the sensor to a base value in the absence of any influencing means (col11 52-55). Adding a method to calibrate the system of Teodorescu would increase the functionality of the system and allow it to be more sensitive by correctly calibrating the sensors. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Teodorescu according to the teachings of Ferre to include a calibration method that involved calibrating the circuit in the absence of an influencing element.

Regarding claim 10, Teodorescu and Ferre disclose all of the claimed limitations. It would have been obvious to repeat the calibration process of the system in order to keep the sensor up to a satisfactory level of confidence. The claim language after the phrase "for example" is not taken into consideration in this rejection, see 112 rejection to claim 10 stated above.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Newham, USP 6,778,090


Van Schyndel et al. USP 6,859,141

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Travis R Hunnings whose telephone number is (571) 272-3118. The examiner can normally be reached on 8:00 am - 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRH


DANIEL WU
SUPERVISORY PATENT EXAMINER
3/20/05